

**Notice of Allowability**

Application No.

10/686,233

Examiner

Huedung Cao Mancuso

Applicant(s)

SANELLI ET AL.

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment, filed on 11/14/06.
2. ☒ The allowed claim(s) is/are 6-10,13-17,20,26-30,33-37 and 40.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
TRINH DINH  
PRIMARY EXAMINER

***Examiner's Amendment***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Larry B. Donovan (Reg. No. 47,230) on 11/29/2006.

The application has been amended as follows:

In claim 20 (currently amended) An antenna system, comprising:

a plurality of antenna elements for sending and receiving a wireless signal; and

at least one conductive member, having edges displaced from and substantially directed toward the plurality of active antenna elements, and cooperating therewith to establish a plurality of hemispherical beam patterns;

wherein the antenna element is shorter [that] than the respective edge of the conductive member.

In claim 40 (currently amended) A wireless device, comprising:

a radio transceiver comprising a plurality of radio components for processing a wireless a plurality of active antenna elements for sending and receiving a wireless signal;

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at least one passive conductive member, having edges displaced from and substantially directed toward the plurality of active antenna elements, and cooperating therewith to establish a plurality of hemispherical beam patterns for the wireless signal; and

wherein the antenna element is shorter [that] than the respective edge of the conductive member.

***Examiner's Statement of Reasons for Allowance***

3. Claims 6-10, 13-17, 20, 26-30, 33-37, and 40 are allowed.

4. The following is an examiner's statement of reasons for allowance:

The prior art made of record fails to anticipate or make obvious the claimed invention. Specifically, the prior art fails to teach, in combination with the remaining elements as recited in claims 6, 13, 15, 20, 26, 33, 35, and 40:

The present invention is directed to an antenna system.

Regarding claims 6, and 26, Chiang (US 6,864,852 B2) discloses at least one plurality of antenna elements for sending and receiving a wireless signal; at least one central conductive member situated between the plurality of antenna elements, having an edge displaced from and substantially directed toward the at least one antenna element. Chiang, however fails to specifically disclose that wherein the at least one conductive member comprises a plurality of non-intersecting conductive members

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wherein each conductive member is associated with at least one plurality of antenna element.

Regarding claims 13, and 33, Chiang (US 6,864,852 B2) discloses a plurality of active antenna elements for sending and receiving a wireless signal; at least one central conductive member situated between the plurality of antenna elements, having an edge displaced from and substantially directed toward the at least one antenna element. Chiang, however fails to specifically disclose that at least one conductive member comprises a substantially angled member.

Regarding claims 15, and 35, Chiang (US 6,864,852 B2) discloses a plurality of active antenna elements for sending and receiving a wireless signal; at least one central conductive member situated between the plurality of antenna elements, having an edge displaced from and substantially directed toward the at least one antenna element. Chiang, however fails to specifically disclose that a sandwich module for providing a further level of antenna isolation.

Regarding claims 20, and 40, Chiang (US 6,864,852 B2) discloses a plurality of active antenna elements for sending and receiving a wireless signal; at least one central conductive member situated between the plurality of antenna elements, having an edge displaced from and substantially directed toward the at least one antenna element. Chiang, however fails to specifically disclose that the antenna element is shorter than the respective edge of the conductive member.

Claims 7-10 are allowed for depending to claim 6.

Claims 14 is allowed for depending to claim 13.

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Claims 16-17 are allowed for depending to claims 15.

Claims 27-30 are allowed for depending to claim 26.

Claim 34, and 36-37 are allowed for depending to claim 33

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Inquiries***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Mancuso whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan, can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Huedung Mancuso  
Patent Examiner

A handwritten signature in black ink, appearing to read 'Trinh Dinh', with a long horizontal flourish extending to the right.

TRINH DINH  
PRIMARY EXAMINER